## REMARKS

The Office Action dated October 18, 2005 has been reviewed and carefully considered. Claims 1-12, 21 and 22 are pending, with claims 1, 21 and 22 being the only independent claims. Reconsideration of the above-identified application, in view of the following remarks, is respectfully requested.

Claims 1-12 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention. Claims 4-12 stand rejected under 35 U.S.C. 112, second paragraph, as failing to comply with the written description requirement. Claim 1 stands rejected under 35 USC 102(b) as being anticipated by Dyer (U.S. Patent No. 5,380,988). Claims 2-3 stand rejected under 35 USC 103(a) as being unpatentable over Dyer in view of Fener (U.S. Patent No. 2,714,416).

In response to the rejection of claims 1-12 under 35 U.S.C. 112, second paragraph, the claims have been carefully reviewed and amended as deemed necessary to ensure that they conform fully to the requirements of Section 112, second paragraph, with special attention to the points raised in paragraph 5 of the Office Action. It is believed that the rejection under Section 112, second paragraph, has been obviated, and its withdrawal is therefore respectfully requested.

With respect to the rejection of claims 4-12 under 35 U.S.C. 112, first paragraph, Applicant respectfully disagrees with, and explicitly traverses, the examiner's reason for rejecting the claims. The phrases "gell coat" (alternatively spelled, "gelcoat") and "flow coat," used in describing layers of the claimed mat, are terms of art that are well-known in the industry. A simple Internet "Google" search yields hundreds of thousands of references to each of these terms. Applicant has attached to this amendment, as Appendix A, two representative pages of that search which contain definitions of these terms.

As gell coat layers and flow coat layers are terms of art it is unclear what the difficulty is in their use in the language of the claims. It is well settled that originally filed claims are part of the specification and accordingly, language used in such claims can act as its own support. Moreover, Applicant wishes to draw the Examiner's attention to Fig. 2b of U.S. Provisional Application Serial No. 60/461025 filed Apr. 4, 2003 entitled "Heated Mat Assembly and Method for Manufacturing Same", which is specifically incorporated herein by reference. This figure specifically identifies two of the layers of the depicted mat as "GELL COAT" and "FLOW COAT".

Accordingly, the use of these terms was in fact described in the specification in such a way as to reasonably convey to one skilled the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Therefore, the withdrawal of the rejection under Section 112, first paragraph, is respectfully requested.

Applicant will now address the prior art rejection of the claims as being obvious over the combination of Dyer in light of Fener. Applicant has amended claim 1 to include the nichrome material of claim 2 as well as additional features.

Claim 1 now recites:

> An electrically powered heating mat comprising:
>
> a heating element, said heating element comprising at least two electrically resistive foil elements, each element constructed of a nichrome material;
>
> at least three protective layers, at least one of said layers comprising at least one resin and at least two of said layers comprising chopped strands; and,
>
> wherein two of said chopped strand layers are situated adjacent to said heating element.

Dyer teaches a thin heating mat structure for melting ice and snow. In particular, Dyer's mat comprises "a thin heating lamina having an element formed of electrically resistive metallic foil imbedded in plastic sheet material" (Abstract, lines 7-10). Dyer's heating foil element "constitutes a single elongate electrically conductive strip" (col. 6, lines 9-10) that can be readily formed by "known printing methods" (col. 6, lines 42-43) or "die stamping" (col. 6, line 49). Also of significance is the placement of "two plastic layers, 16, 18 on either side of heating element 17" (col. 7, lines 11-12).

The Office Action has used Dyer in combination with Fener to teach the use of a nichrome heating element. As an initial matter, Applicant submits that this combination is improper as Fener is nonanalogous art. Fener relates to a heat sealing machine.

Assuming arguendo that this combination is proper, Applicant submits that this combination would fail to teach the invention as claimed for the following reasons.

As noted above, Dyer teaches the use of a soft heating element (i.e., aluminum) that can be readily formed via a printing or die stamping method. Further, this material is placed adjacent to thin plastic layers (e.g., "generally of a thickness of four to five mills thick", col. 7, line 16). The use of a relatively hard heating element such as Nichrome (or cupro-nickel) foil is not conducive to Dyer -- both in the manner his invention is constructed and in the use of plastic material contiguous to the heating element. That is, the placement of such a hard material with resulting sharp edges contiguous to a plastic surface which is to be walked upon, will cause the plastic surface to be cut. In fact, in one embodiment of Fener, the Nichrome heating element "also functions as a cutting edge" (col. 5, line 26).

Applicant has overcome the problems associated with the relative sharp edges of Nichrome heating elements by placing layers of chopped strands against it. This feature has been added to claim 1. This feature is clearly not taught nor suggested by the combination of Dyer and Fener.

Claim 1 has also been amended to recite that at least two foil elements are used in the heating element. This feature is discussed in light of placing such individual elements in protective pockets (paragraph 20 of the application as published). Both Dyer (element 25) and Fener (element 12) teach the use of a single heating element. Applicant

submits that it would not be obvious to modify the use of the single element feature of the prior art into multiple elements as this would require the use of various electrical connections to connect this elements. A thin mat containing such additional connections is incompatible with a mat constructed in accordance with the teachings of Dyer in which the heating element is directly coated by a thin layer of polymeric sheet material (line 15, col. 7) and which is subjected to foot traffic (as depicted in his Fig. 1).

In summary, the combination of Dyer and Fener fails to teach or suggest features of claim 1. That is, it fails to teach or suggest the use of at least two nichrome material resistive foil elements in a thin heating mat. The combination also fails to teach the use of chopped strand layers situated adjacent to these foil elements. For at least these reasons, claim 1 is patentable over the prior art.

Claims 2-12 in this application are each dependent from claim 1 discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration or reconsideration, as the case may be, of the patentability of each on its own merits is respectfully requested.

Newly added claim 21 recites the use of cupro-nickel foil as the heating element (in place of nichrome). Support for this feature is found in the specification, inter alia, at paragraph 19. As noted above, the physical features of cupro-nickel are similar to

nichrome. Consequently, the arguments above with respect to claim 1 are applicable to claim 21 as well and it is deemed patentable for the same reasons.

Newly added claim 22 recites positioning the foil elements in pockets, contained in a chopped strand layer. This feature provides similar protection to the two chopped layers adjacent to the heating element that is recited in claim 1. Consequently, the arguments above with respect to claim 1 are applicable to claim 22 as well and it is deemed patentable for the same reasons.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

Arthur Kaesler

Date: February 16, 2006

By: Arthur Kaesler
Applicant

**Mail all correspondence to:**
Arthur Kaesler
2085 Gilbride Road
Martinsville, NJ 08836

732 469-6582

**Certificate of Mailing Under 37 CFR 1.8**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to MAIL STOP **AMENDMENT**, COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA. 22313 on 2/16/06

Arthur Kaesler 2/16/06

Arthur Kaesler

(Signature and Date)

# APPENDIX A

# Gelcoat

<Back to Last Page> <Glossary Home> <Random Word>
<Preface> <Suggest a Word> <CRC Press Catalog>
<Abbreviations/Acronyms> <Symbols>
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

**Definition:** (1) A quick-setting resin used in molding processes to provide an improved surface for the composite. (2) The first resin applied to the mold after the mold-release agent, which becomes an integral part of the finished laminate and is usually used to improve surface appearance. (3) High-build, chemical-resistant, thixotropic polyester coating.





<Back to Last Page> <Glossary Home> <Random Word>
<Preface> <Suggest a Word> <CRC Press Catalog>
<Abbreviations/Acronyms> <Symbols>
| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

## Flow Coating

### Summary

In flow coating, the part is suspended, and the coating is poured over it. The excess material drips off and is collected for reuse.

In a flow-coat system, 10 to 80 separate streams of coating material are directed to impinge on the parts. The streams flow out of drilled pipes or through short, crimped pipe outlets. Nozzles may be used, but they cannot be the atomizing type.

Flow coating is usually used for large or oddly shaped parts that are difficult or impossible to dip coat. Coatings applied by flow coating have only a poor to fair appearance unless the parts are rotated while dripping.

Flow coating is fast and easy, requires little space, involves relatively low installation cost, requires low maintenance, and has a low labor requirement. Operator skill required is also low. Flow coating achieves a high paint transfer efficiency, often 90 % and higher.

Principal control of dry-film thickness is the paint viscosity. If viscosity is too low, insufficient paint will be applied. If the paint viscosity rises, extra paint will be applied. This can increase paint costs and also plug small holes in the part.

Last Updated: 29 January 2003